

IN THE CLAIMS:

Please amend Claims 1 and 11 as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) An information processing apparatus that creates a print job to be printed by a printing apparatus having an inversion process function, comprising:

a receiving unit adapted to receive print data from an operating system in response to printout from an application;

an intermediate data converting unit adapted to convert said print data received via the operating system from the application to an intermediate code format data and to store said converted intermediate code format data and processing conditions of said print data;

an analysis ~~unit~~ detection adapted to analyze the processing conditions and to determine whether or not the inversion process function to be executed by the printing apparatus is set in the processing conditions;

an inversion-type determination unit adapted to determine whether an entire print sheet is to be inverted or each page of the intermediate code format data is to be inverted with keeping an arrangement of each page;

a preview display controlling unit adapted to display a preview image representing a print sheet printed by the printing apparatus, based on the print data stored by said intermediate data converting unit and the stored processing conditions; and

a job creation unit adapted to create the print job based on the intermediate code format data stored by said intermediate data converting unit, after said preview display controlling unit displays the preview image,

wherein the intermediate code format data is used for both the preview image and the print job, and

wherein said preview display controlling unit displays the preview image representing the print sheet where the arrangement of each page is kept and each page is inverted, in a case where said analysis unit determines that the inversion process function is set in the processing conditions and said inversion-type determination unit determines that each page of the intermediate code format data is to be inverted, and

wherein said preview display controlling unit displays the preview image representing the print sheet where the entire print sheet is inverted, in a case where said analysis unit determines that the inversion process function is set in the processing conditions and said inversion-type determination unit determines that the entire print sheet is to be inverted.

2. (Previously presented) The information processing apparatus according to claim 1, further comprising an editing unit adapted to edit the data stored and converted to the intermediate code format data by said intermediate data converting unit or processing conditions of said print data; and

a data creating unit adapted to create print data and processing conditions that implement print processing different from the print data created by said application based on the data edited by said editing unit,

wherein when a plurality of intermediate code format print data is stored, said editing unit combines said plurality of intermediate code format print data into a single combined job.

3. (Previously presented) The information processing apparatus according to claim 1, wherein said preview display controlling unit acquires layout information from said stored intermediate code format data and previews said print sheet printed by the printing apparatus based on said layout information.

4. (Previously presented) The information processing apparatus according to claim 2, wherein when a mirroring condition is specified for said stored intermediate code format data, said preview display controlling unit makes it possible to preview the data in a mirrored display format based on the editing result from said editing unit.

5. (Previously presented) The information processing apparatus according to claim 2, wherein when color inversion is specified for said stored intermediate code format data, said preview display controlling unit makes it possible to preview the data in a color-inverted display format based on the editing result from said editing unit.

6. (Previously presented) The information processing apparatus according to claim 2, wherein when said editing unit combines a plurality of jobs, said preview display controlling unit makes it possible to present a preview in a display format in which said combined job is displayed as a single job.

7. (Previously presented) The information processing apparatus according to claim 2, further comprising a print data controlling unit adapted to judge whether the print data is created by said application or by said data creating unit and controlling the output destination of the print data.

8. (Previously presented) The information processing apparatus according to claim 1, wherein said print data controlling unit releases the occupation of the application after said intermediate data converting unit stores the converted data.

9. (Previously presented) The information processing apparatus according to claim 1, wherein said intermediate code format data converted by said intermediate data converting unit is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

10. (Previously presented) The information processing apparatus according to claim 2, wherein the processing of combining the print data by said editing unit, the stored data is identified based on identification information obtained by adding an ID to identify the stored data to the logical page ID of said stored data.

11. (Currently amended) An information processing method for creating print job to be printed by a printing apparatus having an inversion process function, comprising:

a receiving step of receiving print data from an operating system in response to a printout from an application;

an intermediate data converting step of converting said print data received via the operating system from the application to an intermediate code format data and storing said converted intermediate code format data and processing conditions of said print data;

an analysis a detection step of analyzing the processing conditions and determining whether or not the inversion process function to be executed by the printing apparatus is set in the processing conditions;

an inversion-type determination step of determining whether an entire print sheet is to be inverted or each page of the intermediate code format data is to be inverted with keeping an arrangement of each page;

a preview display controlling step of displaying a preview image representing a print sheet printed by the printing apparatus, based on the print data stored in said intermediate data converting step and the stored processing conditions; and

a job creation step of creating the print job based on the intermediate code format data stored in said intermediate data converting step, after said preview display controlling step displays the preview image,

wherein the intermediate code format data is used for both the preview image and the print job, and

wherein said preview display controlling step displays the preview image representing the print sheet where the arrangement of each page is kept and each page is inverted, in a case where said analysis step determines that the inversion process function is set in the processing conditions and said inversion-type determination step determines that each page of the intermediate code format data is to be inverted, and

wherein said preview display controlling step displays the preview image representing the print sheet where the entire print sheet is inverted, in a case where said analysis step determines that the inversion process function is set in the processing conditions and said inversion-type determination step determines that the entire print sheet is to be inverted.

12. (Previously presented) The information processing method according to claim 11, further comprising:

an editing step of editing the data stored and converted to the intermediate code format data in said intermediate data converting step or processing conditions of said print data; and

a data creating step of creating print data and processing conditions that implement print processing different from the print data created by said application based on the data edited in said editing step,

wherein when a plurality of intermediate code format print data is stored, said editing step combines said plurality of intermediate code format print data into a single combined job.

13. (Previously presented) The information processing method according to claim 11, wherein said preview display controlling step acquires layout information from said stored intermediate code format data and executes processing for previewing said print sheet printed by the printing apparatus based on said layout information.

14. (Previously presented) The information processing method according to claim 12, wherein when a mirroring condition is specified for said stored intermediate code format data, said preview display controlling step makes it possible to preview the data in a mirrored display format based on the editing result from said editing step.

15. (Previously presented) The information processing method according to claim 12, wherein when color inversion is specified for said stored intermediate code format data, said preview display controlling step makes it possible to preview the data in a color-inverted display format based on the editing result from said editing step.

16. (Previously presented) The information processing method according to claim 12, wherein when said editing step combines a plurality of jobs, said preview display controlling step makes it possible to present a preview in a display format in which said combined job is displayed as a single job.

17. (Previously presented) The information processing method according to claim 12, comprising a print data controlling step of judging whether the print data is created by said application or by processing in said data creating step and controlling the output destination of the print data.

18. (Original) The information processing method according to claim 11, wherein said print data controlling step releases the occupation of the application after said intermediate data converting step stores the converted data.

19. (Original) The information processing method according to claim 11, wherein said intermediate code format data converted by said intermediate data converting step is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

20. (Original) The information processing method according to claim 12, wherein in the processing of combining the print data in said editing step, the stored data is identified based on identification information obtained by adding an ID to identify the stored data to the logical page ID of said stored data.

21. (Previously presented) A computer-readable storage medium that stores a program module for a computer to execute an information processing method for creating print job to be printed by a printing apparatus having an inversion process function, said program module comprising:

a receiving module that receives print data from an operating system in response to printout from an application;

an intermediate data conversion module that converts said print data received via the operating system from the application to an intermediate code format data and stores said converted intermediate code format data and processing conditions of said print data;

an analysis module that analyzes the processing conditions and determines whether or not the inversion process function to be executed by the printing apparatus is set in the processing conditions;



an inversion-type determination module that determines whether an entire print sheet is to be inverted or each page of the intermediate code format data is to be inverted with keeping an arrangement of each page;

a preview display control module that displays a preview image representing a print sheet printed by the printing apparatus, based on the print data stored by said intermediate data converting module and the stored processing conditions; and

a job creation module that creates the print job based on the intermediate code format data stored by said intermediate data converting module, after said preview display control module displays the preview image,

wherein the intermediate code format data is used for both the preview image and the print job, and

wherein said preview display controlling module displays the preview image representing the print sheet where the arrangement of each page is kept and each page is inverted, in a case where said analysis module determines that the inversion process function is set in the processing conditions and said inversion-type determination module determines that each page of the intermediate code format data is to be inverted, and

wherein said preview display controlling module displays the preview image representing the print sheet where the entire print sheet is inverted, in a case where said analysis module determines that the inversion process function is set in the processing conditions and said inversion-type determination module determines that the entire print sheet is to be inverted.

22. (Previously presented) The storage medium according to claim 21, further comprising:

an editing module that edits the data stored and converted to the intermediate code format data by said intermediate data converting module or processing conditions of said print data; and

a data creating module that creates print data and processing conditions that implement print processing different from the print data created by said application based on the data edited by said editing module,

wherein when a plurality of intermediate code format print data is stored, said editing module combines said plurality of intermediate code format print data into a single combined job.

23. (Previously presented) The storage medium according to claim 21, wherein said preview display control module acquires layout information from said stored intermediate code format data and performs processing to preview said print sheet printed by the printing apparatus based on said layout information.

24. (Previously presented) The storage medium according to claim 22, wherein when a mirroring condition is specified for said stored intermediate code format data, said preview display control module makes it possible to preview the data in a mirrored display format based on the editing result from said editing module.

25. (Previously presented) The storage medium according to claim 22, wherein when color inversion is specified for said stored intermediate code format data, said preview display control module makes it possible to preview the data in a color-inverted display format based on the editing result from said editing module.

26. (Previously presented) The storage medium according to claim 22, wherein when said editing means combines a plurality of jobs, said preview display control module makes it possible to present a preview in a display format in which said combined job is displayed as a single job.

27. (Previously presented) The storage medium according to claim 22, comprising a print data control module that judges whether the print data is created by said application or by processing of said data creation module and controls the output destination of the print data.

28. (Original) The storage medium according to claim 21, wherein said print data control module releases the occupation of the application after said intermediate data conversion module stores the converted data.

29. (Original) The storage medium according to claim 21, wherein said intermediate code format data converted by said intermediate data conversion module is data that can be edited in accordance with expansion, contraction, layout display, mirroring and color inversion.

30. (Original) The storage medium according to claim 22, wherein in the processing of combining the print data by said editing module, the stored data is identified based on identification information obtained by adding an ID to identify the stored data to the logical page ID of said stored data.

31. to 50. (Canceled)

51. (Previously presented) An information processing apparatus that creates print data, comprising:

a spooling unit adapted to store print data created by an application;

a determining unit adapted to determine whether mirroring setting is set as print setting for the print data;

a preview display controlling unit adapted, in a case where said determining unit determines that the mirroring setting is set, to create mirrored display data based on the print data stored by said spooling unit and to present a preview; and

a mirroring unit determining unit adapted, in a case where mirroring setting is set as the print setting for the print data and a Nup setting for placing N logical pages on one physical page is set, to determine whether the mirrored display data is to be created in unit of a logical page or the mirrored display data is to be created in unit of a physical page,

wherein in a case where said mirroring unit determining unit determines that the mirrored display data to be created in unit of the logical page, said preview display controlling unit creates the mirrored display data for placing the mirrored image of each logical page without changing an arrangement order of each logical page to be placed on the physical page, and

wherein in a case where said mirroring unit determining unit determines that the mirrored display data is to be created in unit of the physical page, said preview display controlling unit creates the mirrored display data for the mirrored image of the physical page on which each logical page is placed.

52. (Previously presented) An information processing method for creating print data, comprising:

a spooling step of storing print data created by an application;

a determining step of determining whether mirroring setting is set as print setting for the print data;

a preview display controlling step of, in a case where said determining step determines that the mirroring setting is set, creating mirrored display data based on the print data stored in said spooling step and presenting a preview; and

a mirroring unit determining step of, in a case where the mirroring setting is set as the print setting for the print data and a Nup setting for placing N logical pages on one physical page is set, determining whether the mirrored display data is to be created in unit of a logical page or the mirrored display data is to be created in unit of a physical page,

wherein in a case where said mirroring unit determining step determines that the mirrored display data to be created in unit of the logical page, said preview display controlling step creates the mirrored display data for placing the mirrored image of each logical page without changing an arrangement order of each logical page to be placed on the physical page, and

wherein in a case where said mirroring unit determining step determines that the mirrored display data is to be created in unit of the physical page, said preview display controlling step creates the mirrored display data for the mirrored image of the physical page on which each logical page is placed.

53. (Previously presented) A computer-readable storage medium that stores a program module for a computer to execute an information processing method for creating print data, said program module comprising:

a spooling module for storing print data created by an application;

a determining module for determining whether mirroring setting is set as the print setting for the print data;

a preview display controlling module for, in a case where said determining module determines that the mirroring setting is set, creating mirrored display data based on the print data stored by said spooling module and presenting a preview; and

a mirroring unit determining module for, in a case where the mirroring setting is set as the print setting for the print data and a Nup setting for placing N logical pages on one physical page is set, determining whether the mirrored display data to be created in unit of a logical page or the mirrored display data is to be created in unit of a physical page,

wherein in a case where said mirroring unit determining module determines that the mirrored display data to be created in unit of the logical page, said preview display controlling module creates the mirrored display data for placing the mirrored image of each logical page without changing an arrangement order of each logical page to be placed on the physical page, and

wherein in a case where said mirroring unit determining module determines that the mirrored display data is to be created in unit of the physical page, said preview display controlling module creates the mirrored display data for the mirrored image of the physical page on which each logical page is placed.

54. (Previously presented) A computer-program stored on a computer-readable storage medium, which is executed by a computer, comprising:

a spooling step of storing print data created by an application;

a determining step of determining whether mirroring setting is set as print setting for the print data;

a preview display controlling step of, in a case where said determining step determines that the mirroring setting is set, creating mirrored display data based on the print data stored in said spooling step and presenting a preview; and

a mirroring unit determining step of, in a case where the mirroring setting is set as the print setting for the print data and a Nup setting for placing N logical pages on one physical page is set, determining whether the mirrored display data to be created in unit of a logical page or the mirrored display data is to be created in unit of a physical page,

wherein in a case where said mirroring unit determining step determines that the mirrored display data to be created in unit of the logical page, said preview display controlling step creates the mirrored display data for placing the mirrored image of each logical page without changing an arrangement order of each logical page to be placed on the physical page, and

wherein in a case where said mirroring unit determining step determines that the mirrored display data is to be created in unit of the physical page, said preview display controlling step creates the mirrored display data for the mirrored image of the physical page on which each logical page is placed..